HALF YEARLY EXAMINATION, 2018-19
SCIENCE

Time : 3 hrs.   **Class IX**   **M.M. : 80**

Date – 12.09.2018 (Wednesday)

Name of the student _____ Section _____

General Instructions :

- The question paper comprises **two Sections, A** and **B**. You are to attempt both the sections.
- **All** questions are **compulsory**
- **All** questions of **Section-A** and **all** questions of **Section-B** are to be attempted separately.
- Question numbers **1** & **2** in **Section-A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**
- Question numbers **3** to **5** in **Section-A** are **two marks** questions. These are to be answered in about **30 words** each.
- Question numbers **6** to **15** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each
- Question numbers **16** to **21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
- Question numbers **22** to **27** in **Section-B** are **multiple choice questions** based on practical skills. Each question is a **two marks** question. You are to select one most appropriate response out of the four provided to you.

SECTION-A

Q.1 What is nucleoid? **(1)**

Q.2 Name the tissue that stores fat in animals. **(1)**

Q.3 Differentiate between tendon and ligament in at least two points. **(2)**

Q.4 Explain why some of the leaves may get detached from a tree if we vigorously shake its branch? **(2)**

Q.5 State the universal law of gravitation. **(2)**

Q.6 a) Write any two difference between diffusion and osmosis. **(2)**

    b) What happens when raisins are soaked in hypotonic solution? Name the phenomenon that takes place in the process. **(1)**

Q.7 Write one function of each of the following : **(3)**

    a) Stomata   b) Parenchyma   c) Meristematic tissue

    d) Areolar tissue   e) Epithelium tissue   f) Xylem

Q.8 Compare striated muscle, smooth muscle and cardiac muscle under the following points : **(3)**

    a) shape of cells   b) location of the muscle

Q.9 a) What is organic farming ? **(3)**

    b) Write one advantage of organic farming.

    c) What is 'Green Manure'?

Q.10 A truck starts from rest and rolls down a hill with a constant acceleration. It travels a distance of 400m in 20sec. Find its acceleration. Find the force acting on it if its mass is 7 tonnes. (1 tonne = 1000kg) **(3)**

OR

From a rifle of mass 4kg, a bullet of mass 50gm is fired with an initial velocity of 35 m/s. Calculate the initial recoil velocity of the rifle.

Q.11 a) Give two examples of practical applications which are based on highly compressibility of gases. **(3)**

b) Define Latent heat of vaporisation. Why water drops are formed on the outer surface of a glass containing ice-cold water?

Q.12 Describe an activity with the help of labelled diagram to show sublimation of ammonium chloride. **(3)**

Q.13 You are provided with soda water, milk and muddy water. How can you differentiate between them in terms of :- **(3)**

a) Homogenity   b) Filtration.   c) Tyndall effect

OR

a) Why desert cooler cools better in hot sunny days?

b) Why Evaporation is Surface Phenomenon?

c) Which of the two produces more severe burn steam or boiling water. Why?

Q.14 a) If the moon attracts the earth, why does the earth not move towards the moon? **(2)**

b) Why a sheet of paper fall slower than one that is crumpled into a ball? **(1)**

OR

Gravitational force on the surface of the moon is 1/6 times strong as gravitational force on the earth. What is the weight in Newton of a 10kg object on the moon and on the earth? **(3)**

Q.15 a) State law of conservation of linear momentum. **(2)**

b) When a carpet is beaten with a stick, dust comes out of it. Explain. **(2)**

c) Between a rubber ball and a stone of the same size which one has more inertia and why? **(1)**

Q.16 a) What do you mean by free fall? **(2)**

b) What is the acceleration of free fall? **(1)**

Q.17 a) How does Amoeba obtains its food? **(2+3)**

b) Briefly describe the 'cell theory'.

Q.18 a) Write any four factors for which crop variety improvement is done. **(2)**

b) What are macronutrients and micronutrients? Give one example of each. **(2)**

c) Name any one method of crop variety improvement. **(1)**

OR

a) Differentiate between broilers and layers in at least three points. **(3)**

b) Name one indigenous and one exotic breed of cow. **(1)**

c) What is pasturage? **(1)**

Q.19 a) Draw a velocity time graph for a body having an initial velocity 'u' and hence from the same graph derive the equation $S = ut + \frac{1}{2} at^2$. **(3)**

b) An athlete completes one round of a circular track of diameter 200m in 40 sec. What will be the distance covered and the displacement at the end of 2 minutes 20 seconds. **(2)**

OR

a) What is the nature of the distance time graphs for uniform and non-uniform motion of an object? **(2)**

b) Abdul, while driving to school, computes the average speed for his trip to be 20 km/hr. On his return trip along the same route, there is a less traffic and the average speed is 30 km/hr. What is the average speed for Adbul's trip? **(3)**

Q.20 Raghav dissolved one spoonful of salt in 100ml of water . **(5)**

a) Where does the salt disappear ?

b) Write inference that can be drawn about the nature of matter from observation in the above activity.

c) State two characteristics of particles of matter observed in the above activity.

d) Describe an activity to show that rate of diffusion increases with increase in temperature.

Q.21 a) Define saturated and unsaturated solution .How a saturated solution can be converted into unsaturated solution? **(5)**

b) Name the dispersed phase and dispersing medium of the colloid Emulsion.

c) Name the technique used to separate pigments of flower.

d) A Solution contains 5.6ml of alcohol mixed with 75ml of water. Calculate the concentration of solution.

SECTION-B

Q.22 Draw the cells of onion peel and label any two parts in it. **(2)**

OR

Draw check cells and label any two parts of it.

Q.23 Write any two characters of parenchyma tissue and sclerenchyma tissue each. **(2)**

Q.24 a) Suppose a boy is enjoying on a merry-go-round which is moving with a constant speed of 10 m/s. It implies that the boy is : **(1)**

i) at rest   ii) moving with no acceleration

iii) in accelerated motion   iv) moving with uniform velocity.

b) Area under v-t graph represents a physical quantity of unit : **(1)**

i) m^2 ii) m   iii) m^3 iv) m/s

Q.25 a) The numerical ratio of displacement to distance for a moving object is – **(1)**

i) always less than 1   ii) always equal to 1

iii) always more than1   iv) equal or less than 1

b) A particle moving in a circular path of radius 'r'. Displacement after half circle would be : **(1)**

i) zero   ii) πr iii) 2r   iv) $2\pi r$

Q.26 A student by mistake mixed iron filings and sulphur powder. He wanted to separate them from each other. Write two methods used by the student to separate the mixture ? **(2)**

Q.27 A teacher asked a student to prepare Colloidal solution of Egg albumin and starch powder. Mention what methods will be used by the student ? **(2)**

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